

Visual arts: Reflections in Psychoneuroendocrinology
Part III
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Art, Artists, Life, Disease

Since time in memoriam artists were perceived as fine observers or precursors of what later scientists studied and defined. Throughout the course of art history, we observe that artists deal with the representation of different neuroendocrine pathology. In the first part of this article, I presented a few aspects about only some thyroid pathologies. In the second one, I discussed how artists represented dwarfism, Down's syndrome, Cushing disease, and obesity.

This will be the last part of an exciting subject and will focus only on obsessively subjects present in XIX and XX centuries art, expressionism, avant-garde, and contemporary movements. The 3rd part will focus on pathologies that are on the borderline between psychology, neurology, and endocrinology. The targeted interdisciplinary experience with fear, anxiety, depression, infertility, eating disorders (anorexia, bulimia), and our relation with the disabled.

The Preamble of these themes is in XIXth century and let's look at Francisco Goya's black period. Goya was a Spanish romantic painter and printmaker. At the age of 75, alone and in mental and physical despair, he completed the work of his *14 Black Paintings series*, all of which were executed in oil directly onto the plaster walls of his house. During this period Francisco Goya created a series of oil paintings, engravings, and drawings that depict witches, idiots, and mentally disabled people. This cruel and grotesque world differs strikingly from the relaxed scenery, sometimes funny, other times severe and solemn, in which the artist represents the courtly life and the public entertainment of his epoch.

Mental retardation from congenital hypothyroidism or cretinism (remember we talked about this in the first Part of the Article)- is a partial or complete loss of function of the thyroid gland that affects infants from birth. Cretinism involves an association with endemic goiter and severe iodine deficiency and is the most serious iodine deficiency disorder.

In the "Witches' Sabbath" (1819-1823), the facial expression of most of the characters (most of all the young seated woman seen in profile and clothed in white), strongly suggests this mental retardation from congenital hypothyroidism or cretinism.

Francisco Goya, Witches' Sabbath (Aquelarre or El gran cabrón), 1819-1823 , Museo del Prado

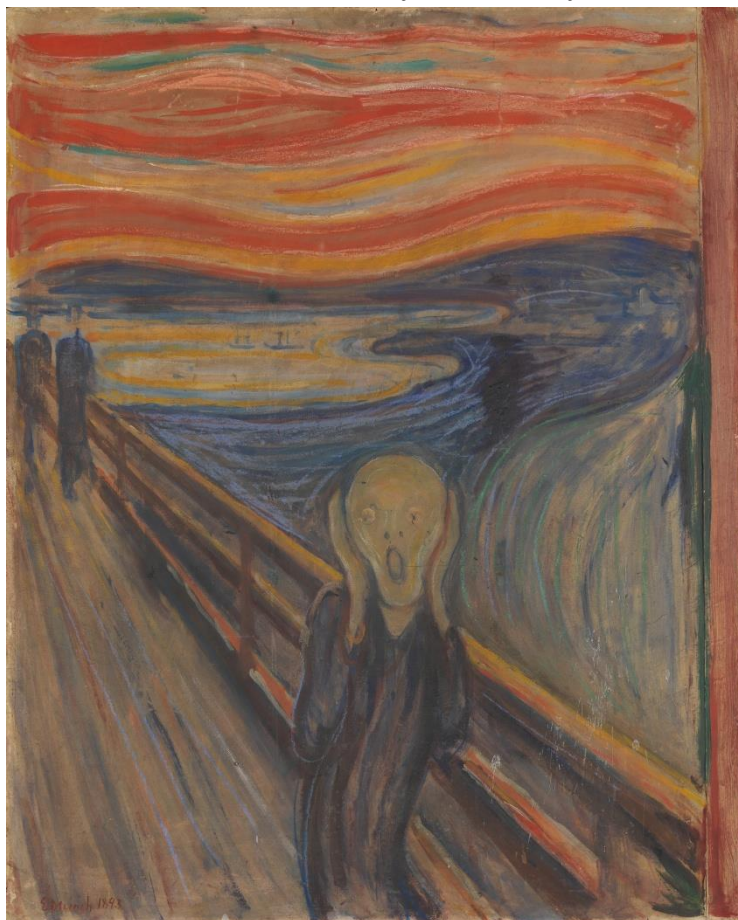


A Witches' Sabbath is a purported gathering of those believed to practice witchcraft and other rituals. The phrase became popular in the 20th century. In Francisco Goya's earlier painting of the same name, **"Witches' Sabbath" or "Aquelarre" (1797-1798)** we also see a group of poor, handicapped, or malformed women prostrated around a figure of a male goat that symbolizes the devil.



Theme and composition reveal the genius of the Spanish painter, who, by anticipating expressionism, succeeds in representing a critical account of religious fanaticism. So at the end of **the 19th century**, we find the Nordic painter **Eduard Munch** painting his famous work "The Scream"(1893). The agonized face in the painting has become one of the most iconic images of art, seen as symbolizing the anxiety (feeling of fear, dread, and uneasiness) of the human condition. **Anxiety** is essentially a ***fight or flight response*** that is malfunctioning. Stress and anxiety affect nearly every gland in our body and the endocrine system plays a crucial role in this, releasing many of the hormones that create our anxiety symptoms.

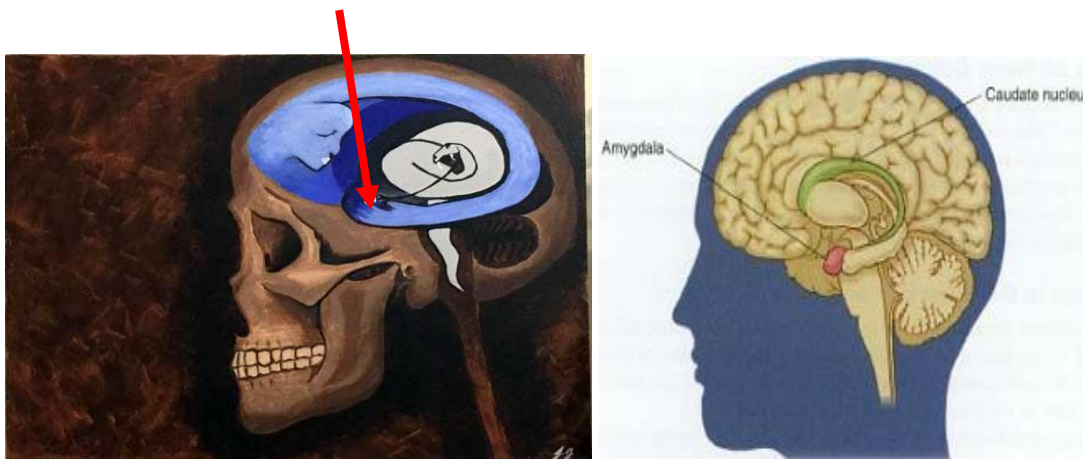
Edvard Munch, 1833 - 1909,
National Gallery of Norway



Scholars have located the spot to a fjord overlooking Oslo and have suggested other explanations for the unnaturally orange sky, ranging from the effects of a volcanic eruption to a psychological reaction by Munch to his sister's commitment at a nearby lunatic asylum.

Fear is an unpleasant emotion or thought that you have when you are frightened or worried by something dangerous, painful, or bad that is

happening or might happen. As with many functions of the brain, there are various regions of the brain (i.e. hippocampus, prefrontal cortex, and amygdala) involved in deciphering fear in humans and other nonhuman species. An interesting anatomic representation of fear by a medical student **Dalis Seungeun KIM** (South Korea) is **FEAR** (Acrylic on canvas - 16 x 20, 1998). This painting depicts a skull with different regions of the brain involved in emotional mechanisms (i.e. hippocampus, prefrontal cortex, and amygdala). There is an individual in white sitting on the amygdala, a region of the brain primarily associated with emotional processes. The name amygdala is derived from the Greek word amygdale, meaning “almond,” owing to the structure’s almond-like shape. The serpent’s tongue is reaching toward him, as the haunting memory induces fear in the hippocampus (brain area essential in memory).



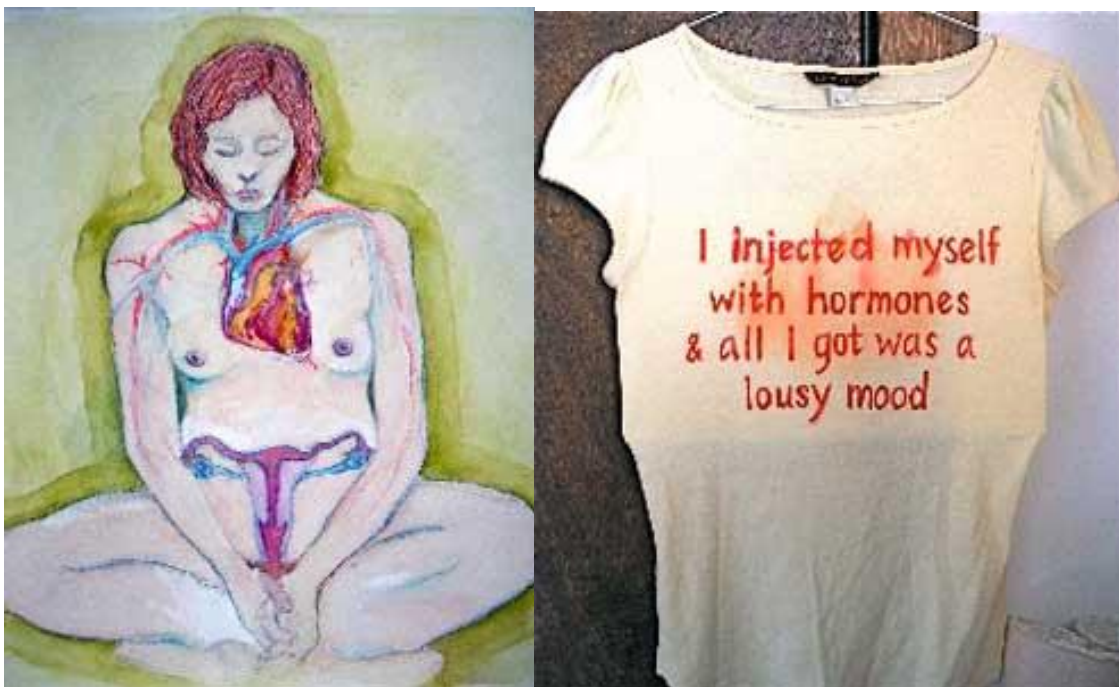
Infertility is the inability of a person, animal, or plant to reproduce by natural means. The World Health Organization defines infertility as a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. Male infertility is responsible for 20–30% of infertility cases, while 20–35% are due to female infertility female, and 25–40% are due to combined problems in both parts. In 10–20% of cases, no cause is found.

Infertility was not a subject for the artists until modern times, it was a **taboo**. And also this day, no matter how progressive and open-minded we consider ourselves to be, we continue to treat certain important subjects as taboo. One such area is reproduction which follows fertility/infertility. The effects of infertility are psychological and social. Some patients and some therapists turn

to be artists, they became fascinated “by the inner workings of the body “and try to represent this pathology with very simple techniques.

Raina Cowan is an artist and an art therapist. While undergoing infertility treatment she “became fascinated by the inner workings of the body” so she made delicate watercolors, meditations on the process of conception: Infertility’s shadow, “Infertility Wear” (painted T-shirt). No voluptuous forms of her figure, nothing kind and feminine with this T-shirt message.

Infertility’s Shadow Art Institute of Chicago,2013
Infertility Wear
Watercolor and watercolor pencil 17” x 15”



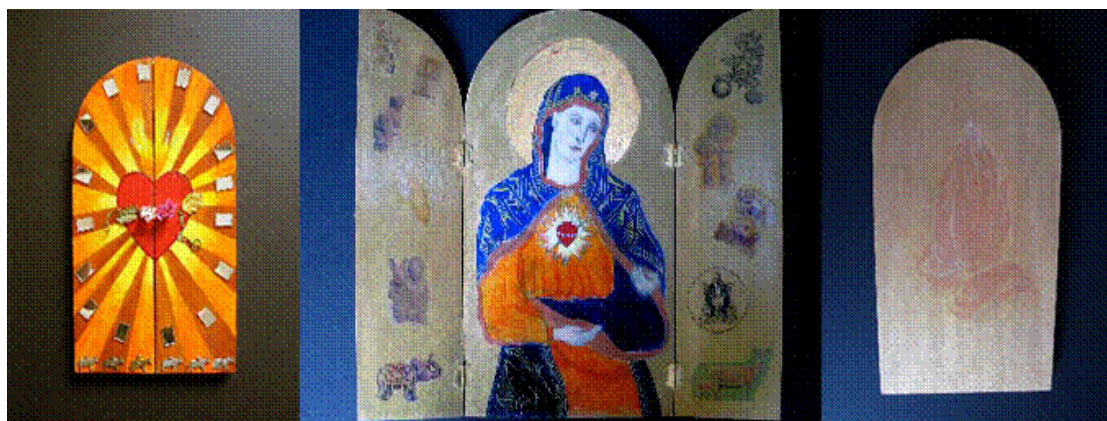
Leonardo da Vinci: *Leda and the Swan*; Study for the Kneeling Leda (c.1505 - 1507)



From the opposite and indirect perspective, we have the fecundity as by Leonardo (*Leda and the Swan*). Leda seated on the ground with her children as a result of their union is underlined by them just hatched from their eggs. Flowering and seeding plants surround both Leda and the Swan. Leda turns her face to the swan, chastely caressing it with her left hand. Curving lines articulate the voluptuous forms of her figure and round out her body in three dimensions.

Raina Cowan , *Madonna, no child*, 2012

Acrylic paint, gold leaf, and other mixed media on wood panel front view (left), open view (center), back view (right) 13” x 14” (open)





On the opposite, a “Nativity”- St Jean Triptych, from Bruges.

Depression is more than just sadness. People with depression may experience a lack of interest and pleasure in daily activities, significant weight loss or gain, insomnia or excessive sleeping, lack of energy, inability to concentrate, feelings of worthlessness or excessive guilt, and recurrent thoughts of death or suicide (American Psychological Association).

The **Great Depression** was a severe worldwide economic depression that took place during the 1930s. It was the longest, deepest, and most widespread depression of the 20th century. The 1930s were a period of intense artistic experimentation. The Depression led not only to new arts funding but a radical rethinking of how to express the social experience of the Depression itself.

The Great Depression, 1930, photo



Jimi Hendrix (1942-1970) – Self Portrait



Jimi Hendrix is believed to have suffered from bipolar disorder (manic depression) because of his aggressive lifestyle and the kind of music he produced.

Bipolar disorder is a lifelong mood disorder and mental health condition that causes intense shifts in mood, energy levels, thinking patterns, and behavior.

Joe McGown, Maniac Depression (2011)



Joe McGown “I made videos of two of my drawings, Manic Depression and Self Searching, and loaded them on Youtube the other day. In both cases, I panned across the surface of each piece slowly to allow the viewer to see the detail more closely. For the Manic Depression video, I added some background music that I made up on the spot and played on my guitar. While I am not a musician, I think the guitar that I recorded for this conveys the feeling of the artwork. “

Eating disorders (anorexia/bulimia)

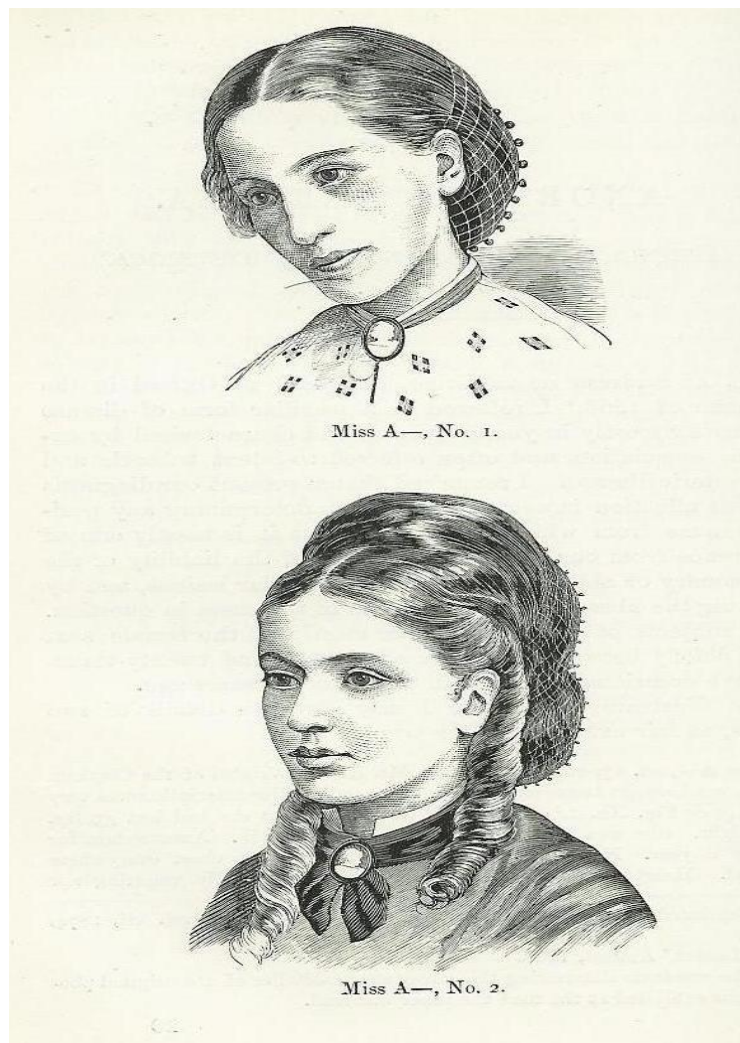
Eating disorders can stimulate the production of the so-called 'stress hormones', which include **cortisol**, growth hormone, and noradrenaline. These hormones are usually released in higher concentrations at periods of

high stress and can lead to sleep problems, feelings of **anxiety, depression,** and panic.

Anorexia nervosa (AN) often simply called **anorexia** — is an eating disorder characterized by an abnormally low body weight, an intense fear of gaining weight, and a distorted perception of weight. The exact cause of anorexia is unknown. As with many diseases, it's probably a combination of biological, psychological, and environmental factors, a variety of potentially life-threatening conditions. The syndrome is associated with multiple, **profound endocrine alterations** which may be adaptive, reactive, or etiologic. Nearly all the endocrine systems are profoundly altered in **severe AN**.

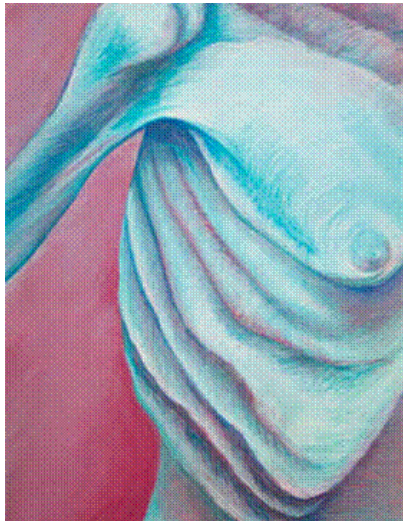
Anorexia can have numerous complications, at its most severe, it can be fatal. "Miss A—" depicted in 1866 before and in 1870 after treatment.

Her condition was one of the earliest case studies of anorexia, published in medical research papers of William Gull (1816 –1890), known for naming of anorexia nervosa.



Laura Olear, Chicago, USA

Anorexia (2008), 22" x 30" Mixed media on paper



Gloria Pérez-Herrero
Madrid, Spain

Anorexia (2019), Oil painting



Bulimia nervosa

People with bulimia, known as bulimics, consume large amounts of food (binge) and then try to rid themselves of the food and calories (purge) by fasting, excessive exercise, vomiting, or using laxatives.

The behavior often serves to reduce *stress* and relieve *anxiety*. Because bulimia results from an excessive concern with weight control and self-image and is often accompanied by **depression**, it is also considered a psychiatric illness.

Annibale Carracci “ The Bean eater “ 1580-1590



Pieter Bruegel the Elder - Peasant Wedding

Can we talk here about bulimic subjects or just gourmands, or just eating habits? Eating habits show wide variation between populations and individuals and in different chronological periods. Art is offering valuable knowledge on food and eating habits. Since the Renaissance period, there has been a parallel evolution of art and alimentary discoveries over time.

But bulimia and bulimic subjects- are specific to our modern time.



Vaylet Rain, Artist

Izhevsk, Russian Federation

The girls with an eating disorder, drawing
*She looks in the mirror and sees a beautiful girl but she doesn't believe she is.
These thoughts are eating her from the inside. And every single day she has*

to fight with herself about how much and what she can allow to eat. Because she doesn't know what means 'enough'. Every meal explodes her stomach. After she regrets that she isn't strong enough, she can't keep a diet, she can't change her body and her lifestyle



Looking now to Art not as flexing an illness but as a tool for therapy, there are many trials showings that art can be valuable in the recovery process of individuals with eating disorders. It can be introduced as an alternative coping skill where patients are encouraged to creatively express difficult and overwhelming feelings and emotions that are otherwise expressed through the control of food. Art therapy gives form to feelings, concerns, and stress which can be understood and addressed.

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